

PERSONAL INFORMATION

Cinzia Margherita Berteà

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Gender Female | **Nationality** Italian

PROFILE

Associate Professor in Plant Physiology

Her scientific research is mainly focused on basic and applied research related to physiology, biochemistry and molecular biology of plant responses to abiotic (salinity, drought, heat) and biotic stress (pathogen and herbivore attacks) and on molecular biology and biochemistry of secondary metabolites in particular terpenoids and phenolic compounds in medicinal and food plants.

Her current research lines include:

- i) search for new plant biostimulants, innovative products employed in agriculture for enhancing plant growth, development, tolerance to abiotic stress and crop yield;
- ii) isolation, analysis and biological activity evaluation of primary and secondary metabolites from plants and other organisms to be employed in food and pharmaceutical industries.
- iii) DNA fingerprinting of medicinal and food plants

WORK EXPERIENCE

- | | |
|-------------------|--|
| 11/2014 – present | <p>Associate Professor in Plant Physiology (05/A2 - BIO/04)
Department of Life Sciences and Systems Biology University of Torino Turin, IT</p> <p><i>Main activities and responsibilities</i>
Coordination of research activities in the field of basic and applied plant biology
Teaching at multiple B.Sc. and M.Sc. courses at the University of Torino
PhD students' supervision</p> |
| 02/2004 – 10/2014 | <p>Assistant Professor in Plant Physiology (05/A2 – BIO/04)
University of Torino Turin, IT</p> <p><i>Main activities and responsibilities</i>
Research activities in the field of basic and applied plant biology, with particular regard to secondary metabolites
Teaching at multiple B.Sc. and M.Sc. courses at the University of Torino
PhD students' supervision</p> |
| 12/2003 – 01/2004 | <p>Temporary contract as Assistant Professor for the Plant Physiology Course (Laboratory exercises)
University of Torino Turin, IT</p> |
| 08/2003 – 11/2003 | <p>Associate in Research
Business Unit Cell Cybernetics Plant Research International Wageningen, NL</p> |
| 12/2002 – 01/2003 | <p>Temporary contract as Assistant Professor for the Plant Physiology Course (Laboratory exercises)
University of Torino Turin, IT</p> |
| 05/2001 – 11/2002 | <p>Marie Curie Post-doctoral fellowship (MCFI QLK3-CT-2000-52058)
Business Unit Cell Cybernetics Plant Research International Wageningen, NL
Title of the project: "Improving the production of the anti-malarial artemisinin in <i>Artemisia annua</i>"</p> |

OTHER WORK EXPERIENCES

- 06/2019 – 07/2019 Visiting Professor (Erasmus+ Programme)
Universidad Mayor de San Andrés (UMSA) | Facultad de Ciencia Farmacéuticas y Bioquímicas | La Paz, BO
- 05/2009 and 08/2011 Visiting Scientist
Weizmann Institute of Sciences | Rehovot, IL
- 05/2004 – 06/2004 Visiting Scientist
Center for Ecological Research | University of Kyoto | Kyoto, JP
- 09/2000 – 05/2001 Middle School Teacher of Maths and Sciences
Scuola Media Statale “Carutti” | Piscina (TO), IT
- 03/1999 – 08/1999 Associate in Research
Institute of Biological Chemistry | Washington State University (Pullman) WA, US
- 05/1998 – 11/1998 Associate in Research
Institute of Biological Chemistry | Washington State University (Pullman) WA, US

EDUCATION AND TRAINING

- 09/2022 National scientific habilitation as University Professor (Level I) for 05/A2 – Plant Physiology – MUR
- 07/2012 National scientific habilitation as University Professor (Level II) for 05/A2 – Plant Physiology - MIUR
- 02/2000 PhD in Bio-chemical Sciences
University of Torino | Turin, IT
- Thesis title: “Menthofuran biosynthesis in the genus Mentha: cloning and heterologous expression of (+)-menthofuran synthase from peppermint”. One year of the PhD project was carried out at the Institute of Biological Chemistry, Washington State University, Pullman, WA, US.
- 1995 National professional habilitation as Biologist
University of Torino | Turin, IT
- 1994 Bachelor Degree in Biological Sciences (Biomolecular specialty)
University of Torino | Turin, IT
Final grade: 108/110 and press dignity
- 1988 Teaching Diploma
Istituto Magistrale “G.A. Rayneri” | Pinerolo, (TO), IT
Final grade: 48/60

PROJECTS

- 04/2019 – 09/2022 Italian Principal Investigator
 ROOT (Resilience to salinity in tomato) funded by SusCrop2018 – ERA-NET Cofund on Sustainable Crop Production – Joint Programming Initiative on Agriculture, Food Security and Climate Change (FACCEJPI) (Grant N°771134) (<https://www.suscrop.eu/projects-first-call/root>)
- 2017 Participant
 In vivo targetting rice-blast fungus (*Magnaporthe oryzae*) using innovative Dihydroorotate Dehydrogenase (DHODH) inhibitors (BLAST). Grants4Targets – Novel targets for Crop Protection - Bayer AG Crop Science
- 2015-2017 Participant
 From cellulose to biofuel through *Clostridium cellulovorans*: an alternative biorefinery approach - 'Progetti di Ricerca Ateneo/Compagnia di San Paolo - anno 2014
- 2008 Principal Investigator
 Torino-Weizmann Collaborative Program: Scientific Cooperation and Exchange 2008. The molecular characterization of *Boswellia*, and the biosynthesis of incensole acetate a novel pharmacological agent from an ancient drug
- 2006 Participant
 Sunflower raw Oil as a bioFuel Technology for COmbined heat and Power plants: an application for district heating (SOFTECOP)' - CIPE 2006

**ACADEMIC MANAGEMENT,
 NETWORKS AND
 MEMBERSHIPS**

- 10/2022 - present Member of the Quality Assurance Board of the University of Torino
- 11/2022 - present Member of the Internship Evaluation Committee of the Master Degree in Plant Biotechnology, University of Torin
- 2022 - present Member of the Editorial Board of the Journal "Plant Stress"
- 2022 Guest Editor – Reseach Topic "Characterization of Biostimulants used in Agriculture: A Step Towards Sustainable and Safe Foods", Open Access Journal Frontiers in Plant Science
- 2021 - present Member of the Editorial Board of the Open Access Journal "Agronomy"
- 2020 Guest Editor of the Special Issue "Impacts of Biostimulants on Crops" of the Open Access Journal "Agriculture"
- 2020 - present Member of the Scientific Committee of the 'Interdepartmental Centre ICxT', University of Torino
- 2020 - 2021 Member of the Research Committee, Department of Life Sciences and Systems Biology, University of Torino
- 2019 - 2021 Member of the Third Mission Committee, Department of Life Sciences and Systems Biology, University of Torino
- 2019 - present Contact person for EFSA (European Food Safety Agency) Italian Focal Point - Department of Life Sciences and Systems Biology, University of Torino

- 2015 - 2021 Coordinator of the Master Degree Program in "Food Sciences and Human Nutrition", University of Torino
- 2020 - present Coordinator for the Department of Life Sciences and Systems Biology of the Collaborative Online International Learning (COIL) project in collaboration with the University CEU Madrid (Spain) University of Coventry (UK), in 2023 replaced by the University of Paris Saclay – Program "Nutrition and Dietetics".
- 2015 - present Member of the admission test committee of the Master Degree Program in "Food Sciences and Human Nutrition", University of Torino
- 2015 - present Member of the Teaching Committee of the Department of Life Sciences and Systems Biology, University of Torino
- 2015 - present Member of the Silver Medal committee for the best thesis of the Master Degree Program in "Food Sciences and Human Nutrition", University of Torino
- 2015 - 2022 Member of the Monitoring Committee of the Master Degree Program in "Food Sciences and Human Nutrition", University of Torino
- 2014 - 2017 Tutor in the PhD program in Environmental and Applied Botany – University of Cagliari
- 2012 Member of the Silver Medal committee for the best thesis of the Master Degree Program in "Environmental Biology" University of Torino
- 2010 - present Tutor in the PhD program in Pharmaceutical and Biomolecular Sciences – University of Torino
- 2006 - present Participant of the ISO9001:2015 quality management systems certification (UO1 – Plant Physiology Unit)
- 2006 - 2016 Manuscript Manager of Journal of Plant Interactions, edited by Taylor & Francis
- 2004 - 2010 Member of the scientific board of PhD program in Plant and Environmental Biosensing
- 2000 - present Member of the Italian Society of Plant Biology

BIBLIOMETRIC INDEXES

Scopus (ID: 660247841)
78 documents, 32 h-index, 2973 citations

PUBLICATIONS (5 YEARS)

- 2022 Magara, G., Prearo, M. Vercelli, C., Barbero, R., Micera, M., Botto, A., Caimi, C., Caldaroni, B., **Berteà, C.M.**, Mannino, G., Barceló, D., Renzi, M., Gasco, L., Re, G., Dondo, A., Elia, A.C. and Pastorino, P. (2022) Modulation of Antioxidant Defense in Farmed Rainbow Trout (*Oncorhynchus mykiss*) Fed with a Diet Supplemented by the Waste Derived from the Supercritical Fluid Extraction of Basil (*Ocimum basilicum*). *Antioxidants*, 11, 415.

- 2022 Mannino, G., Ricciardi, M., Gatti, N., Serio, G., Vigliante, I., Contartese, V., Gentile, C., **Berteà, C.M.** (2022) Changes in the Phytochemical Profile and Antioxidant Properties of *Prunus persica* Fruits after the Application of a Commercial Biostimulant Based on Seaweed and Yeast Extract. *International Journal of Molecular Sciences*, 23, 15911.
- 2022 Mannino, G., Serio, G., Asteggiano, A., Gatti, N., **Berteà, C.M.**, Medana, C.; Gentile, C. (2022). Bioactive Compounds and Antioxidant Properties with Involved Mechanisms of *Eugenia involucrata* DC Fruits. *Antioxidants*, 11, 1769.
- 2022 Usai, G., Cordara, A., Re, A., Polli, M.F., Mannino, G., **Berteà, C.M.**, Fino, D., Pirri, C.F., Menin, B. (2022). Combining metabolite doping and metabolic engineering to improve 2-phenylethanol production by engineered cyanobacteria. *Frontiers in Bioengineering and Biotechnology*, 10, 1005960.
- 2022 Comini, S., Scutera, S., Sparti, R., Banche, G., Coppola, B., **Berteà, C.M.**, Bianco, G., Gatti, N., Cuffini, A.M., Palmero, P., Allizond, V. (2022). Combination of Poly(ϵ -Caprolactone) Biomaterials and Essential Oils to Achieve Anti-Bacterial and Osteo-Proliferative Properties for 3D-Scaffolds in Regenerative Medicine. *Pharmaceutics*, 14, 1873.
- 2021 Agliassa, C., Mannino, G., Molino, D., Cavalletto, S., Contartese, V., **Berteà, C.M.**, Secchi, F. (2021). A new protein hydrolysate-based biostimulant applied by fertigation promotes relief from drought stress in *Capsicum annuum* L. *Plant Physiology and Biochemistry*, 166, 1076-1086
- 2021 Campobenedetto, C., Agliassa, C., Mannino, G., Vigliante, I., Contartese, V., Secchi, F., **Berteà, C.M.** (2021). A biostimulant based on seaweed (*Ascophyllum nodosum* and *Laminaria digitata*) and yeast extracts mitigates water stress effects on tomato (*Solanum lycopersicum* L.). *Agriculture*, 11, 557.
- 2021 Castiglione, A.M., Mannino, G., Contartese, V., **Berteà, C.M.**, Ertani, A. (2021). Microbial Biostimulants as Response to Modern Agriculture Needs: Composition, Role and Application of These Innovative Products. *Plants*, 10, 1533.
- 2021 Costa, P., Usai, G., Re, A., Manfredi, M., Mannino, G., **Berteà, C.M.**, Pessione, E., Mazzoli (2021). *Clostridium cellulovorans* Proteomic Responses to Butanol Stress. *Frontiers in Microbiology*. 12:674639.
- 2021 Mannino, G., Chinigò, G., Serio, G., Genova, T., Gentile, C., Munaron, L., **Berteà, C.M.** (2021). Proanthocyanidins and Where to Find Them: A Meta-Analytic Approach to Investigate Their Chemistry, Biosynthesis, Distribution and Effect on Human Health. *Antioxidants*, 10, 1229.
- 2021 Mannino, G., Gentile, C., Ertani, A., Serio, G., **Berteà, C.M.** (2021). Anthocyanins: Biosynthesis, Distribution, Ecological Role, and Use of Biostimulants to Increase Their Content in Plant Foods - A Review. *Agriculture*, 11, 212.
- 2021 Mannino G., Pernici C., Serio G., Gentile C., **Berteà C.M.** (2021). Melatonin and Phytomelatonin: Chemistry, Biosynthesis, Metabolism, Distribution and Bioactivity in Plants and Animals - An Overview. *International Journal of Molecular Sciences*, 22, 9996.
- 2021 Campobenedetto, C., Mannino, G., Beekwilder, J., Karlova, R., Contartese, V., **Berteà, C.M.** (2021). The application of a biostimulant based on tannins affects root architecture and improves tolerance to salinity in tomato plants. *Scientific Reports*, 354.
- 2020 Acquadro, S., Cibra, A., Cagliero, C., Marengo, A., Rittà, M., Francese, R., Sanna, C., **Berteà, C.**, Sgorbini, B., Lembo, D., Donalisio, M., Rubiolo, P. (2020). *Punica granatum* Leaf Ethanolic Extract and Ellagic Acid as Inhibitors of Zika Virus Infection. *Planta Medica*, 86, 1363-1374.

- 2020 **Berteà, C.M.**, Casacci, L.P., Bonelli, S., Zampollo, A., Barbero, F. (2020). Chemical, physiological and molecular responses of host plants to lepidopteran egg-laying. *Frontiers in Plant Science*, 10, 1768
- 2020 Campobenedetto C., Grange E., Mannino G., van Arkel J., Beekwilder J., Karlova R., Garabello C., Contartese V., **Berteà C.M.** (2020). A biostimulant seed treatment improved heat stress tolerance during cucumber seed germination by acting on the antioxidant system and glyoxylate cycle. *Frontiers in Plant Science*, 11, 836.
- 2020 Campobenedetto, C., Mannino, G., Agliassa, C., Acquadro, A., Contartese, V., Garabello, C., **Berteà, C.M.** (2020). Transcriptome Analyses and Antioxidant Activity Profiling Reveal the Role of a Lignin-Derived Biostimulant Seed Treatment in Enhancing Heat Stress Tolerance in Soybean. *Plants*, 9, 1308.
- 2020 Mannino, G., Campobenedetto, C., Vigliante, I., Contartese, V., Gentile, C. **Berteà, C.M.** (2020). The Application of a Plant Biostimulant Based on Seaweed and Yeast Extract Improved Tomato Fruit Development and Quality. *Biomolecules*, 10, 1662.
- 2020 Mannino, G., Gentile, C., Porcu, A., Agliassa, C., Caradonna, F., **Berteà, C.M.** (2020). Chemical Profile and Biological Activity of Cherimoya (*Annona cherimola* Mill.) and Atemoya (*Annona atemoya*) Leaves. *Molecules*, 25, 2612.
- 2020 Mannino, G., Nerva, L., Gritli, T., Novero, M., Fiorilli, V., Bacem, M., **Berteà, C.M.**, Lumini, E., Chitarra, W., Balestrini, R. (2020). Effects of different microbial inocula on tomato tolerance to water deficit. *Agronomy*, 10, 170.
- 2020 Mannino, G., Perrone, A., Campobenedetto, C., Schittone, A., **Berteà, C.M.**, Gentile, C. (2020). Phytochemical profile and antioxidative properties of *Plinia trunciflora* fruits: a new source of nutraceuticals. *Food Chemistry*, 307, 125515.
- 2020 Micera, M., Botto, A., Geddo, F., Antoniotti, S., **Berteà, C.M.**, Levi, R., Gallo, M.P., Querio, G. (2020). Squalene: More than a Step toward Sterols. *Antioxidants*, 9, 688.
- 2019 Cazzola, M., Ferraris, S., Allizond, V., **Berteà, C.M.**, Novara, C., Cochis, A., Geobaldo, F., Bistolfi, A., Cuffini, A.M., Rimondini, L., Banche, G., Spriano, S. (2019). Grafting of the peppermint essential oil to a chemically treated Ti6Al4V alloy to counteract the bacterial adhesion. *Surface and Coatings Technology*, 378, 125011
- 2019 De Stefanis, D., Scimè, S., Accomazzo, S., Catti, A., Occhipinti, A., **Berteà, C.M.**, Costelli, P. (2019). Anti-proliferative effects of an extra-virgin olive oil extract enriched in ligstroside aglycone and oleocanthal on human liver cancer cell lines. *Cancers*, 11, E1640.
- 2019 De Vita, D., Messori, A., Toniolo, C., Frezza, C., Scipione, L., **Berteà, C.M.**, Micera, M., Di Sarno, V., Madia, V.N., Pindinello, I., Roscilli, P., Botto, A., Simonetti, G., Orekhova, A., Manfredini, S., Costi, R., Di Santo, R. (2019) Towards a new application of amaranth seed oil as an agent against *Candida albicans*. *Natural Product Research*, 4, 1-6.
- 2019 Marengo A., Cagliero C., Sgorbini B., Anderson J.L., Emaus M.N., Bicchi C., **Berteà C.M.**, Rubiolo P. (2019). Development of an innovative and sustainable one-step method for rapid plant DNA isolation for targeted PCR using magnetic ionic liquids. *Plant Methods*, 15, 23.

2019 Marengo, A., Emaus, M., **Berteà, C.**, Bicchi, C., Rubiolo, P., Cagliero, C., Anderson, J. (2019). *Arabidopsis thaliana* ITS sequence-specific DNA extraction by ion-tagged oligonucleotides coupled with a magnetic ionic liquid. *Analytical and Bioanalytical Chemistry*, 411, 6583–6590.

2019 Marengo A., Maxia A., Sanna C., Mandrone M., **Berteà C.M.**, Bicchi C., Sgorbini B., Cagliero C., Rubiolo P. (2019). Intra-specific variation in the little-known Mediterranean plant *Ptilostemon casabonae* (L.) Greuter analysed through phytochemical and biomolecular markers. *Phytochemistry*, 161, 21-27.

2018 Agliassa C., Narayana R., **Berteà C. M.**, Rodgers C.T., Maffei M.E. (2018). Reduction of the geomagnetic field delays *Arabidopsis thaliana* flowering time through downregulation of flowering-related genes. *Bioelectromagnetics*, 39, 361-374.

2018 Molinaro, F, Tyc, O., Beekwilder, J., Cankar, K., **Berteà, C.M.**, Negre, M., Garbeva, P. (2018). The effect of isabelin, a sesquiterpene lactone from *Ambrosia artemisiifolia*, on soil microorganisms and human pathogens. *FEMS Microbiology Letters*, 365, fny001.

2018 Querio G., Antoniotti S., Foglietta F., **Berteà C. M.**, Canaparo R., Gallo M. P., Levi R. (2018). Chamazulene Attenuates ROS Levels in Bovine Aortic Endothelial Cells Exposed to High Glucose Concentrations and Hydrogen Peroxide. *Frontiers in Physiology*, 9, 246.

2018 Querio G., Antoniotti S., Foglietta F., Levi R., **Berteà C.M.**, Canaparo R., Gallo M.P. (2018). Chamazulene prevents ROS production in human dermal fibroblast and bovine aortic endothelial cells exposed to oxidative stress. *Vascular Pharmacology*, 103–105, 56.

AWARDS

2022 Plants Best Paper Awards for the following scientific paper: “Transcriptome Analyses and Antioxidant Activity Profiling Reveal the Role of a Lignin-Derived Biostimulant Seed Treatment in Enhancing Heat Stress Tolerance in Soybean” Campobenedetto, C., Mannino, G., Agliassa, C., Acquadro, A., Contartese, V., Garabello, C., Berteà, C.M. *Plants* 2020, 9(10), 1308; doi:10.3390/plants9101308

LANGUAGE SKILLS

Mother tongue(s) Italian

Other language(s)	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	C2	C2	C2	C2	C2

DIGITAL SKILLS

Microsoft Office | Zoom | Google Drive | Google Docs | Skype | Teams | Google Meet | Cisco Webex